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ABSTRACT

This article describes a new supervision model conceived to help a school system redesign its anatomy (structures), physiology (flow of information and webs of relationships), and psychology (beliefs and values). The new paradigm (Knowledge Work Supervision) was constructed by reviewing the practices of several interrelated areas: sociotechnical systems design, knowledge work, quality improvement, business-process reengineering, and organization development. The paradigm is powered by three key players: an organizationwide steering committee providing strategic leadership, school-based redesign management teams providing tactical leadership for the redesign initiative, and knowledge-work supervisors skilled in the organizational redesign process. There are four phases: preparing, redesigning for high performance, achieving performance and diffusion, and continually improving schooling. Each phase has several supervisory activities. Knowledge Work Supervision helps a school system develop redesign proposals tailored to its environment, work system, and social architecture, not to what faddists or government bureaucrats deem appropriate. The paradigm is complex, because school systems are complex. It offers a systematic way to examine this complexity to determine which variables affect organizational performance. (Contains 26 references.) (MLH)

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Knowledge Work Supervision: transforming school systems into high performing learning organizations

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Asks the question: what if the focus of educational supervision was to shift from inspecting individual teacher-behaviour to examining and improving three sets of key organizational variables – work processes, social architecture, and environmental relationships? What if supervision could be transformed from performance evaluation into a process for designing high performing schools? Presents the paradigm of Knowledge Work Supervision, an innovative model of educational supervision designed to achieve what is alluded to in the above questions. It is a systemic and systematic model for redesigning the anatomy (structures), physiology (flow of information and webs of relationships) and psychology (beliefs, values) of an entire school system. Explains that the paradigm is cyclical having four phases each with several activities, and it was constructed by reviewing real-world practices in several interrelated areas: socio-technical systems design, knowledge work, quality improvement, business process re-engineering and organization development. Claims that Knowledge Work Supervision marks the leading edge of an emerging paradigm shift in the field of educational supervision.

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Designing high performance schools through Knowledge Work Supervision

The supervision of teachers is traditionally inspectorial. Supervisors focus their attention on the classroom behaviour of individual teachers, hoping that, if only enough teachers improve, the entire school system will improve. Beer *et al.*[1], however, submit that this approach to organizational improvement is:

> guided by a theory of change that is fundamentally flawed. The common belief is that the place to begin is with the knowledge and attitudes of individuals. Changes in attitudes... lead to change in individual behaviour... and changes in individual behaviour, repeated by many people will result in organizational change... This theory gets the change process exactly backward. In fact, individual behaviour is powerfully shaped by the organizational roles people play. The most effective way to change behaviour, therefore, is to put people into a new organizational context [a redesigned organization?], which imposes new roles, responsibilities, and relationships on them (p. 159).

Thus, if a school system wants to improve its overall performance, it seems that traditional supervisory models and methods are not helpful. What, then, can a school system do to move towards higher levels of organizational performance?

This article answers this question by describing a new model of supervision conceived to help a school system redesign its anatomy (structures), physiology (flow of information and webs of relationships) and psychology (beliefs, values). The model is called Knowledge Work Supervision[2] and it marks the leading edge of an evolving paradigm shift in the field of educational supervision. The direction of this shift is displayed in Table I.

Informed readers of the literature on school reform are often overwhelmed by the sheer quantity of information on school improvement. There is abundant literature explaining why schools need to be restructured, the literature is replete with descriptions of what the outcomes of school reform ought to look like (e.g. block scheduling, year-round schooling, outcomes-based education and schools-of-choice). There is, however, almost no literature about how to redesign a school system to move it towards higher levels of performance. Knowledge Work Supervision responds to this critical need by providing innovative guidance on how to redesign an entire school system. The paradigm is explained in more detail in a new book called *Designing High Performance Schools: A Practical Guide to Organizational Reengineering*[3].

The paradigm of Knowledge Work Supervision offers a systemic and systematic process for redesigning a school system anywhere in the world. The vision for Knowledge Work Supervision is that it becomes a vehicle for helping school systems throughout the world to become high-performing learning organizations that apply their collective knowledge to create and deliver educational services that have true value for all students and parents.

The paradigm was constructed by reviewing the practices of several interrelated areas: sociotechnical systems design[4-8], knowledge work[9-13], quality improvement[14-19], business process reengineering[20] and organization development[21-24]. The author's experience as a management consultant to businesses like the State Farm Insurance Companies, the Association for Supervision and Curriculum Development, and the US Departments of Energy and Agriculture also contributed to the design of this supervision model.

The structure of the paradigm

The paradigm of Knowledge Work Supervision has four phases, each with multiple steps. The paradigm is cyclical whereby at the completion of phase IV, a point in time that varies from school system to school system, the process recycles back to phase I. The cyclical process continues for the life of the school system thereby making Knowledge Work Supervision a never-ending process of organizational renewal. The structure of the paradigm is depicted in Figure 1.

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Table I
Direction of the proposed paradigm shift

Paradigm attributes	From *Traditional paradigms* (Clinical supervision and its variations; and, supervision-as-performance evaluation)	To *Knowledge Work Supervision*
Underlying philosophy	Changing individual behaviour improves the entire organization	Changing the entire organization improves individual behaviour
Focus	On individual behaviour	On the system's overall functioning
Organizational unit within which supervision occurs	Within individual schools	Within a cluster of inter-connected schools
Core methods	Classroom observation for clinical supervision and performance evaluations	Assess and simultaneously improve all of the following: The school system's relationship with its environment The knowledge work processes: linear work and non-linear work The social architecture, including motivation, job satisfaction, skills, and quality of work life Continuously improve all of the above for the life of the organization
Key players	Building principal Instructional supervisor Peers	District-wide steering committee providing strategic leadership Redesign management teams providing tactical leadership Knowledge work supervisors providing overall co-ordination and process management
View of teachers	Employees needing to be evaluated; or colleagues needing assistance	Semi-autonomous knowledge workers Stakeholders in the organizational improvement process
Ways of improving individual performance levels	Formative/summative evaluation In-service training Coaching Clinical supervision	Formative evaluation Self-directed in-service training Coaching Clinical supervision Competency modelling Performance technology

Source: The F.M. Duffy Group, Highland, Maryland, 1996.

The paradigm is powered by three key players:

1 an organization-wide steering committee providing strategic leadership;
2 school-based redesign management teams providing tactical leadership for the redesign initiative; and
3 Knowledge work supervisors skilled in the process of organizational redesign.

Phase I: preparing

The seven supervisory activity steps are:

1 Build support for Knowledge Work Supervision.
2 Identify a starting-point.
3 Establish a contract.
4 Form a steering committee.
5 Engage the steering committee in assessing the environment.
6 Engage the steering committee in redefining the mission and vision of the school system.
7 Establish a change management structure and process.

The above supervisory activities focus on preparing to redesign a school system. Steps 1-3 are difficult, challenging and political; yet completing these steps is crucial to the success of the overall redesign effort (practical guidance on how to use positive political skills in organizations is found in Block's[25]

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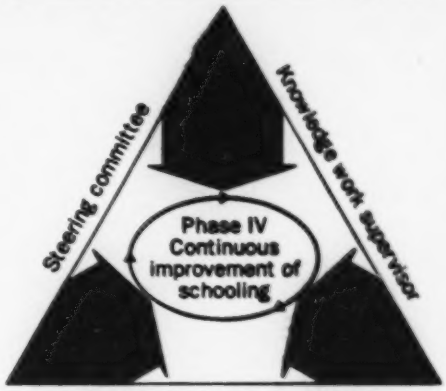
Figure 1
The paradigm of Knowledge Work Supervision



book, *The Empowered Manager*. Failure to complete this phase or short-cutting the preparation process usually results in a failed redesign effort. This conclusion is supported by Kotter[26] who identifies eight errors made by organizations engaged in re-engineering efforts – errors that result in failure. Four of these errors can occur during phase I of the Knowledge Work Supervision process. Yet, despite Kotter's research evidence, there are school systems that force strong industrial-like improvement processes on their people. If Kotter is correct in his assessment of why change efforts fail, then the outcome of forced school improvement is predictable. Phase I of the proposed model is more democratic in its approach to building support for change – a characteristic that seems to be supported by Kotter's research.

Steps 1-3 are conducted by a small group of influential administrators, supervisors and teachers who see the need to institute Knowledge Work Supervision. These people build support for Knowledge Work Supervision, identify a cluster of interconnected schools (for example, in the USA, elementary schools "feed" into middle schools, and middle schools feed into high schools – a cluster would be one high school and all the middle and elementary schools feeding into it) within the school system to begin the process, and develop a contract with teachers and administrators from that cluster.

The steering committee established in step 4 is composed of representatives from a cross-section of the school system (administrators, supervisors, teachers and, most importantly, the senior administrator). The steering committee provides strategic leadership for Knowledge Work Supervision by diagnosing the organization's relationship with its environment and by redefining or clarifying the school system's mission and vision.

The last step of phase I is the formation of a redesign management team (RMT). The RMT is a structure already in place in some school systems in the USA in the guise of school improvement teams. The RMT becomes the driving force behind the redesign process by providing tactical leadership. These teachers and administrators manage the redesign process in their respective cluster. By learning how to do the redesign work, the RMT increases the likelihood that improvements that are made will "stick".

Phase II: redesigning for high performance
The six supervisory activity steps here are:

1 Diagnose the work system of the cluster of school beginning Knowledge Work Supervision.
2 Diagnose the social architecture of the cluster.
3 Develop proposals to redesign the cluster.
4 Develop an implementation plan.
5 Implement selected proposals.
6 Evaluate the process and outcomes of the redesign effort.

The first analysis in phase II examines the work system of the cluster of schools beginning the redesign process. School systems are knowledge organizations and the work they do is knowledge work. In school systems, the work system has two key work processes. The most important knowledge work process is classroom teaching. Classroom teaching is knowledge work. It is not a step-by-step work process (like making an automobile); instead, it is non-linear in nature. The non-linear nature of teaching is reflected in how a teacher teaches. When she is on her feet her mind is racing. She has her objective(s) in mind. New examples of the points she is trying to make pop into her head. Students ask questions that take her off course temporarily. She returns to her original direction when a story reinforcing her points comes to mind. She looks at the clock and realizes she must bring the lesson to a close. Before closing she makes one last point that was triggered by a student's question during the first minute of class – a full 44 minutes earlier.

The second work process in schools is a step-by-step, linear work process that supports the core work process (classroom teaching). It is the instructional programme, which in the USA is structured as kindergarten through twelfth grade. Students must progress through this work process in a linear way. Certain requirements must be satisfied before the student can progress to

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the next higher grade. This sequence of grades continues until students graduate.

To diagnose these two work processes, the RMT looks for errors in both work processes. To examine the linear instructional programme, the RMT audits the instructional programme. Policies, procedures, information flow, and so on are examined to identify errors. Traditional sociotechnical systems analysis procedures are useful for this audit (e.g. charting errors on a matrix).

Traditional sociotechnical systems design is not useful for improving non-linear knowledge work[12] like classroom teaching. There is also no research evidence suggesting that traditional sociotechnical systems design can improve teaching and learning. Traditional instructional supervision is also not effective for improving classroom teaching throughout a school system, although is seems to be useful with select teachers.

The broad actions needed to improve knowledge work in schools are adapted for school systems from the work of Pava[12]. These actions are:

- Improve the quality and timeliness of key information that teachers need to teach effectively.
- Ensure that teachers interact with the the key people with whom they should be exchanging critical information.
- Provide teachers and key people with a variety of structured, semi-structured, and informal forums for exchanging critical information.
- Examine and improve any devices (e.g. computers), work procedures (e.g. testing and measurement) and organizational functions (e.g. administration) that support teaching.

Knowledge Work Supervision provides a systemic and systematic model for achieving these improvements.

The second diagnosis of Phase II examines the social architecture of the school system. The biggest oversight in current organizational improvement models (e.g. school improvement efforts, business process re-engineering and total quality management) is that these models do not aim to improve the social system of an organization. The social architecture is a web-like structure of roles, required work skills, relationships, beliefs, values and perceptions. The social system and the work system interact at a significant level. The social architecture maintains the work system. If improvements are only made in the work system, then the redesign effort will fail in the long run. The social architecture and the work system must be improved simultaneously in order to raise overall levels of organizational performance.

The most important outcome of phase II is the implementation of a comprehensive proposal to redesign the cluster of schools beginning the redesign process. The results of the environmental analysis completed in phase I by the steering committee and the data from the diagnoses of the work system and social architecture of the cluster of schools are analysed to identify ways to improve the performance level of the cluster significantly. This examination results in a comprehensive redesign proposal that has sufficient breadth and depth to effect true improvements in the work system, social architecture and environmental relationships of the cluster of schools that began the redesign process. The proposal must also be clearly and powerfully aligned with the overall school system's vision statement.

Phase III: achieving permanence and diffusion

Supervisory activity steps here are:

1 Conduct "double-loop" learning seminars[21-22].
2 Gain commitment to the changes that have been made.
3 Allocate rewards for desired behaviours.
4 Diffuse the changes to other parts of the organization.
5 Detect and correct deviations from the desired outcomes.

There is an old French saying that applies to school improvement efforts of the past and present: *Plus ça change, plus c'est la même chose*. It translates: The more things change, the more they stay the same. This cynical observation is particularly true of organizational changes. It is reflected in statements like "Didn't we do this last year?" or, "I thought we solved that problem!" or, "If we hang on long enough, this too shall pass". Obviously, if school system personnel really want to improve the performance level of their school system, they do not want their organization to suffer from the "change – revert back – change again – revert back again" syndrome. They want all their hard work, emotional commitment and energy to pay off with permanent improvements. Permanent improvements are achieved through steps 1-3. These activities help the cluster of schools that began the improvement process to anchor their improvements to the school system's culture and other deep organizational structures.

After the redesign improvements are made permanent in the cluster of schools that began the redesign process, the steering

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committee initiates a second round of Knowledge Work Supervision. Lessons learned from the first round are used to redesign other clusters of schools. New RMTs are chartered and trained. The original RMT also serves as "in-house" trainers for the new RMTs.

The Knowledge Work Supervision process, as described above, recycles until the entire school system is redesigned for high performance. Once the entire system is redesigned, the steering committee and RMTs begin detecting and correcting deviations from desired outcomes. The redesign improvements are frequently compared to the organization's vision statement. If the improvements are moving away from the vision, then they are brought back online. This kind of strategic alignment is critical to the long-term success of Knowledge Work Supervision.

Phase IV: continuous improvement of schooling

The two supervisory activity steps are:

1 Seek opportunities for continuous improvement.
2 Supervise system boundaries.

After the entire school system is redesigned for high performance through Knowledge Work Supervision, the entire school system moves into phase IV of the paradigm. In phase IV, the RMTs, which remain active (although with rotating membership), seek ways to make incremental improvement in their schools' environmental relationships, work processes and social architecture. The organization-wide steering committee oversees the entire process. This kind of fine-tuning is important because it helps the school system to eliminate glitches in the improvements that were made. The tools and methods of quality improvement are useful during this phase.

There are invisible system boundary lines between grades, between levels of schooling and between the school system and its environment. Information passes through these boundaries. The quality and quantity of information and cross-boundary relationships among people need to be managed to assure effective organizational performance. Supervising these boundaries during phase IV, by developing and using high quality communication strategies and methods, is one of the primary responsibilities of knowledge work supervisors. Knowledge work supervisors are administrators and supervisors currently working in the school system but who are re-skilled to do organizational redesign work.

Conclusion

Current school improvement recommendations advise school systems about what the outcomes of school improvement should be; e.g. schools of choice, block scheduling and teaching ethics to kids. These recommendations do not take into consideration that school systems, and indeed each school within a system, are complex tapestries of interconnected elements woven together by the threads of their social systems on the background of demanding external environments. Trying to lay these recommendations for change onto these tapestries without assessing what that system's environment expects of it, without examining the nature of that system's work processes and without assessing the motivating and satisfying attributes of work relationships, results in failure, frustration and the actualization of "The more things change the more they stay the same".

Knowledge Work Supervision is designed to help a school system develop proposals for redesigning itself that are tailored to its environment, its work system and its social architecture – not to what someone sitting in a government office thinks ought to be done or to what the latest fad maker is selling.

Knowledge Work Supervision is a new model. As a new approach to school improvement, it is locked in a paradox: because it is new, no one is using it and because no one is using it, no one wants to use it. Although the model is new, many of its components are not new, and many school systems in the USA are currently using elements of the model. For example, there are school districts that regularly assess their environment's expectations, that envision bright futures for themselves, that use school improvement teams and that apply principles of continuous quality improvement. All of these activities are part of Knowledge Work Supervision. To design Knowledge Work Supervision, the author "shopped" for new, innovative ideas on how to improve professional work (a.k.a. knowledge work) and combined these new ideas with effective organizational improvement methods borrowed from the fields listed earlier in this article.

The paradigm looks complex because it is. It must be complex, because a school system is complex. The paradigm offers a systematic way to examine this complexity to determine which variables affect organizational performance. The paradigm also views a school organization as a system, and provides techniques to improve all pieces of that system, not just the curriculum, the length of the

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school day or the classroom behaviour of individual teachers. The paradigm looks like it takes time because it does take time. There are no "quick fixes" for school improvement. If school system personnel go for the quick fix, they go for failure.

If applied consistently and with patience, Knowledge Work Supervision will almost certainly move a school system towards higher levels of organizational performance because it combines proven organizational improvement methods with innovative ideas for improving knowledge work (like the teaching-learning process). The real-world experiences of business organizations using similar redesign models confirm this conclusion. Further, a school system will not perfectly achieve its new vision because that vision is a moving target. However, the organization will move continuously towards the vision because Knowledge Work Supervision is cyclical and never-ending. Knowledge Work Supervision is a school system's lifelong journey of continuous renewal and it will raise its level of organizational performance. Nothing less will do it.

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